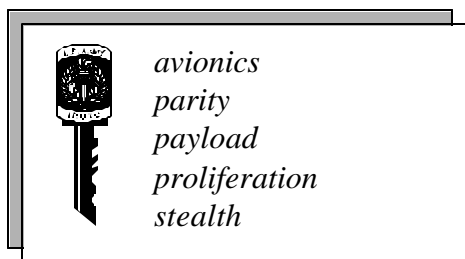


LESSON 5: THE U.S. AIR FORCE



INTRODUCTION

The U.S. Air Force exemplifies the dominant role of air and space power in meeting this nation's security needs across the entire spectrum of peace and conflict — such as building U.S. influence globally through its presence and strengthening national capabilities to conduct decisive combat operations worldwide on short notice. Therefore, a major commitment of the Air Force over the past decade has been to remain the world's premier air and space force.

BACKGROUND

The U.S. military first started using balloons for aerial reconnaissance of the battlefield during the Civil War (1861 – 1865). Following that war, air operations remained a responsibility of the Army until the turn of the century, when, in 1907, the Air Branch was established as a part of an Aeronautical Division of the Army Signal Corps. The Army ordered its first military plane

from the Wright brothers in 1908. Until 1911, the Army had only one pilot and one plane. In that year, Congress appropriated the first funds for aviation — \$135,000.

In 1926, the Army's Air Branch was renamed the Army Air Corps. However, air operations continued to become increasingly independent and the Army formed the Army Air Force in 1941. By the time Japan attacked Pearl Harbor on December 7, 1941, the air arm was a vital member of the defense team.

After World War II, Congress established the U.S. Air Force as a part of the National Military Establishment with the passage of the *National Security Act* of 1947. Then, on September 18, 1947, the Air Force was assigned its missions and objectives in the nation's defense structure and it officially came into being.

Today, the Air Force has many different kinds of aircraft — some are still powered by propellers, most are powered by jet engines, many of them require only one pilot, others require a full crew, and some are guided only by electronic devices. The Air Force has aircraft and missiles all over the world that are ready for a surprise air or missile attack. To discourage such an attack, the Air Force maintains the power to strike back immediately with conventional or nuclear weapons. The Air Force also supports ground troops in battle and protects them from air attack.

MISSIONS

As an essential contributor to America's security, the mission of the Air Force is to *defend the United States through control and exploration of air and space*. Teamed with the other Services, the Air Force is prepared to fight and win any war if deterrence fails. To meet this

challenge, the Air Force brings six core competencies to the fight and five pillars in support of the nation's interests. The core competencies are:

- Air and space superiority
- Global attack
- Rapid global mobility
- Precision engagement
- Information superiority
- Agile combat support

The five pillars are:

- Building U.S. influence around the world
- Controlling the high ground of space
- Supplying rapid global mobility
- Providing versatile combat forces
- Sustaining nuclear deterrence

These tasks have assumed heightened significance in the post-Cold War era. Air and space power can help to shape the international environment through global presence, and in a world defined by contingencies, the Air Force focuses on three objectives to guide it through these turbulent times. These objectives are to maintain combat readiness, shape tomorrow's force, and support its people.

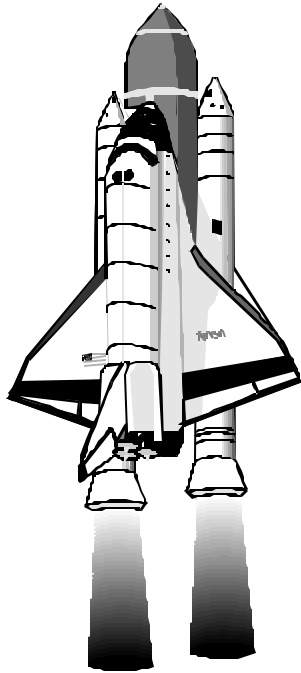
Moreover, with the rise in instability and unrest throughout much of the world in the 1990s, America's security depends on a strategy to control or limit this instability by remaining engaged — but without the benefit of a large permanent presence of military forces overseas. In short, the United States must increasingly depend on forces that can project power rapidly and globally from this continent to influence events abroad. The Air Force, with its global presence, is fully employed in support of this strategy by:

- ✓ Preparing to deter or defeat aggression

- ✓ Providing stability for the growth of new democracies and peaceful resolution of conflicts
- ✓ Conducting humanitarian operations

Therefore, the Air Force remains organized, trained, and equipped for prompt and continuous operations that include:

- Defending the United States against any aircraft or missile attacks and pursuing development of space-based infrared systems to provide accurate tactical warning of a missile attack against deployed troops.
- Pursuing technologies to improve the ability of the United States to neutralize ballistic and cruise missiles and weapons of mass destruction before launch or very early in flight.
- Keeping enemy aircraft out of U.S. air space.
- Providing close air support to deployed troops.
- Providing combat support, such as enemy surveys or weather information, to U.S. military forces.
- Supporting research and development of aerospace programs.
- Dominating the information environment.
- Supporting defense space programs, such as the strategic defense initiative or outer space defense.
- Supporting National Aeronautics and Space Administration (NASA) programs, such as the space shuttle missions.



ORGANIZATION

The U.S. Air Force operates under the Department of the Air Force — a Military Department of the Defense Department. The Secretary of the Air Force, a civilian appointed by the president but subject to Senate approval, heads the entire Air Force establishment and is responsible to the president and the Secretary of Defense. The Chief of Staff of the Air Force is the highest-ranking officer, who serves as the Secretary of the Air Force's principal adviser and represents the Service on the Joint Chiefs of Staff. An Air Staff directs the operational forces of the Air Force.

FORCE STRUCTURE

- ✓ 13 active and 7 reserve component Fighter Wing Equivalents (FEWs)
- ✓ 100 deployable bombers (B-1, B-2, B-52)
- ✓ 450 to 500 single-warhead Intercontinental Ballistic Missiles (ICBMs)

The Air Force is organized in nine major commands throughout the world that provide combat aircraft, airlift, refueling, reconnaissance, and other support to the Unified Combatant Commands. Additionally, the Air Force has more than three dozen Field Operating Agencies and Direct Reporting Units which directly support the mission by providing unique services. The major commands are:

- Air Combat Command
- Air Education and Training Command
- Air Force Reserve Command
- Air Force Material Command
- Air Force Space Command
- Air Mobility Command
- Pacific Air Forces
- U.S. Air Forces in Europe
- Air Force Special Operations Command

FORCE STRUCTURE

During the mid-1990s, the Air Force reorganized its resources to maintain a combat ready force that is smaller but more powerful than ever before. The resulting force structure enables the Air Force to support joint force commanders in accomplishing their missions and to meet its current national security requirements as defined by the President, the Secretary of Defense, and the Secretary of the Air Force. The careful management of these resources ensures that Air Force units are supportable and sustainable, and its personnel are adequately trained to execute all assigned tasks.

This force structure enables the Air Force to fight on two nearly-simultaneous major regional conflicts as explained below. Of the 13 active duty fighter wing equivalents, five and two-thirds are permanently assigned to Europe and the Pacific,

leaving seven and one-third available to the Air Combat Command to immediately commit to a theater in the event of a contingency. Under this scenario, the reserve components are critical and they would be mobilized after the active duty forces.

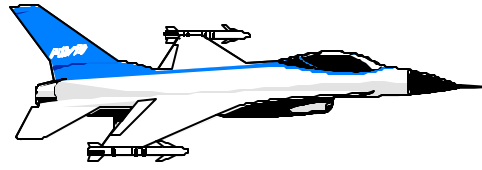
More wings could be injected within the first several weeks if required. The bombers would deploy with the other forces and conduct combat operations immediately upon the onset of hostilities — operating from the United States initially, then deploying into the theater to maximize operating tempos. Acting together, these forces are key to seizing the initiative from the enemy, destroying its ability to project power, and helping to create conditions for a peaceful settlement favorable to the United States. This force structure also provides for a sufficient reserve to deter or respond to a second aggressor should another conflict erupt.

The Air Force is also organized to participate in the nation's space programs. For example, the Air Force provides officers to serve as astronauts, uses Air Force scientists to launch satellites and space probes, tracks hurricanes, conducts research into weather forecasting, and carries out hazardous search and rescue missions in emergencies.

MODERN-DAY and FUTURE AIRCRAFT

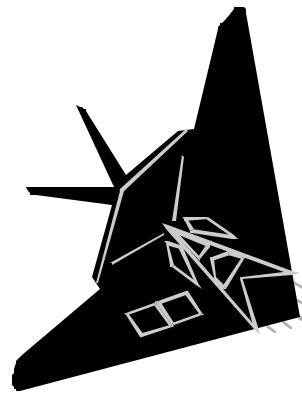
THE F-16 FIGHTING FALCON

Ever since the mid-1970s, the F-16 Fighting Falcon has been one of the Air Force's premier air superiority fighters. The F-16 is a highly maneuverable aircraft that can fly at twice the speed of sound. It can carry a variety of weapons such as heat-seeking and laser-guided missiles.



STEALTH TECHNOLOGY FIGHTERS

The present F-117A **stealth** fighter (pictured below) has a surface that is principally aluminum coated with radar-absorbent materials and serrated edges to suppress radar reflection. It counters radar by absorbing incoming waves and directing echoes away from the radar trying to detect the aircraft. Radar that hits the aircraft directly ahead is its most serious threat. The stealth is a slow aircraft, but speed is not that important since it cannot be detected by radar. Its maximum speed is 740 mph, although at combat weight, that speed drops to 190 mph.



The stealth fighter of the future, the F-22, “epitomizes what any adversary respects most about American military power — it is sophisticated, responsive, flexible, and extremely difficult to defend against. It will ensure that the United States maintains its record of air superiority into the twenty-first century. With the **proliferation** of launch and leave air-to-air missiles, many foreign fighters are now at **parity** with the F-15, which is highly vulnerable to advanced surface-to-air missiles. The F-22 will provide the qualities

required to fight outnumbered against opponents and win using supersonic cruise, high maneuverability, and advanced **avionics**. Once the F-22 wins the contest for air superiority, it can quickly swing to surface attack operations — penetrating heavy defenses unassisted in a strike role to destroy vital targets on the ground.” (General Ronald R. Fogleman, Chief of Staff, 1995)

BOMBERS

The B-2's stealth, range, large **payload**, and rapid intercontinental response significantly improve the Air Force's ability to determine the course of a conflict at its onset. To comprehend its reach, consider that B-2s, in a conventional role, staging from Whiteman AFB, Missouri, Diego Garcia, and Guam can cover the entire world with just one refueling.

While the B-2 will be used to penetrate the most sophisticated enemy defense, the B-1 will be the backbone of the bomber fleet, with its greater numbers, larger payload, and higher speed. In addition, the B-52 will continue to make a major contribution to the Air Force. It can conduct standoff and direct attacks in conventional conflicts carrying a full range of advanced munitions, such as cruise missiles.

AIR FORCE RESERVE COMPONENTS

The Air Force is increasingly using the capabilities of its Reserve and National Guard components. These units and personnel are making key contributions to the wartime force structure of the Air Force and to peacetime contingency operations around the world.

AIR FORCE RESERVES

The Air Force Reserves are administered by the federal government and are subject to recall by Congress or the president during a national emergency. The mission of the Air Force Reserves is to *ensure that all units and individuals are prepared to accomplish their assigned tasks in support of the Total Air Force and national objectives*. Other missions include space projects such as space shuttle support, the Defense Support Program, Global Positioning System, and the Defense Meteorological Satellite Program, as well as unique missions such as aerial spray and hurricane hunting.

The Air Force Reserves consist of the Retired and Standby Reserves (which accounts for 70% of the total reserve force), Selected Reserve (which accounts for 16%), and the Individual Ready Reserve (which accounts for the remaining 14%).

The three major elements in the Air Force Reserve Command are the Unit Assigned Reservists (64% of that command), Air Reserve Technicians (12%), and civilians (7%). Unit Assigned Reservists are located on active duty and reserve bases, they have varied missions, and they deploy as a unit. Air Reserve Technicians are dual role civilians and reservists. They are full-time employees who provide day-to-day continuity and are responsible for unit training and maintaining combat readiness.

As an important member of the Total Air Force team, the Air Force Reserves provide operational support in functional areas such as:

	% of Total Force
✓ Communication	3%
✓ Security Forces	13%
✓ Service Support	15%
✓ Civil Engineer Capability	16%

✓ Medical Capability	18%
✓ Aerial Port Capability	52%
✓ Wartime Combat Logistics	59%
✓ Port Mortuary Services	75%

Additionally, reserve forces provide 50% of the crews and 19% of the aircraft for strategic airlift, and 41% of the crews and 12% of the aircraft for tankers.

AIR NATIONAL GUARD

The Air National Guard is administered by the states, but the president can call Air National Guard units to active duty during national emergencies. The mission of the Air National Guard is to *provide ready units to the state and nation in three roles*:

- ◆ Federal Role — to support national security objectives.
- ◆ State Role — to protect life and property, and to preserve peace, order, and safety.
- ◆ Community Role — to participate in local, state, and national programs that add value to America.

Although the Air National Guard was not established as a separate reserve component of the U.S. Air Force until September 1947, National Guard aviators have played significant roles in all of America's wars and most of its major contingencies since the First World War.

The history of the Air National Guard dates back to November 1915 when Captain Raynal Bolling organized and took command of a unit that became the 1st Aero Company of the New York National Guard. In 1916, the 1st Aero Company mobilized during the border crisis with Mexico. During World War I, the War Department decided not to mobilize the air guard units.

Instead, individual guard members volunteered to enter the service — providing a major pool of aviators from which the Army could draw. These volunteers had to leave the Guard and enter the Army Signal Corps. One such volunteer was Eddie Rickenbacker — who became the leading U.S. air ace in World War I because he shot down 22 enemy planes.

After World War I, the War Department formed 29 National Guard observation squadrons. These squadrons supported ground forces training and participated in state missions such as carrying supplies and relief workers during the 1927 flood. One of the most famous Guard pilots of that time was Charles A. Lindbergh — the first person to make a solo nonstop trans-atlantic flight in 1927.

During Desert Storm in the early 1990s, the contributions of the Air National Guard included a wide range of support missions: Its aerial tankers pumped over 250 million pounds of fuel into more than 18,000 aircraft, and its airlifters flew some 40,000 hours, transporting 55,000 people, and 115,000 tons of cargo.

Today, programs of Air National Guard units extend beyond the boundaries of their home states and the nation. For example, 13 states have formed partnerships with other nations as a result of the Air National Guard's "Building Bridges to America" program.

TRADITION

The core values of the Air Force are "*integrity first, service before self, and excellence in all things we do.*" These core values serve as the standard of behavior for all its personnel — serving to remind its members of the importance of the profession they have chosen, the oath they took, and the demands placed upon them as mem-

bers of the profession at arms. The official colors of the Air Force are ultramarine blue and golden yellow.